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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,424	03/08/2004	Eric A. Nyberg	14185-B	1883
29171	7590	12/14/2006	EXAMINER MAI, NGOCLAN THI	
BATTELLE MEMORIAL INSTITUTE ATTN: IP SERVICES, K1-53 P. O. BOX 999 RICHLAND, WA 99352			ART UNIT 1742	PAPER NUMBER

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/796,424	Applicant(s) NYBERG ET AL.	
	Examiner Ngoclan T. Mai	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8,24-27,29-35,37-39 and 41-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8,24-27,29-35,37-39,41-51 and 53 is/are rejected.
- 7) ☒ Claim(s) 52 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Amendment filed 11/14/06 has been entered. In the amendment applicant amended claims 1 and 41 and canceled claims 9-23 and 54-151. Note that claims 3, 7, 28, 36 and 40 were canceled in previous amendment. Currently claims 1-2, 4-6, 8, 24-27, 29-35, 37-39, 41-53 are pending. Upon further consideration, the claims are rejected as follows.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Rejections - 35 USC § 102*

3. Claims 1-2, 4, 5 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 7901021. The claimed invention anticipates the reference because the reference discloses porous tantalum plate formed molding a composition comprising a mixture of tantalum powder (getter metal), camphor, benzene as well as 0.5 wt.% naphthalene, see abstract. While the reference is silent about the benzene and naphthalene being as binder, however since reference employs the same material as in the instant claims, it inherently act as a binder. Although the reference discloses the amount of the binder phrase in wt. percent, it is the examiner's position that, when converted to volume percent, this amount inherently encompasses the claimed amount absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary.

4. Claim 1, 2, 4, 24, 25, 26 are rejected under U.S.C. 102(b) as being anticipated by Broodo. The claimed invention anticipates the reference because the reference discloses composition for making anode by compacting, wherein the composition comprises film-forming metal particles such as Ta, Zr, Nb, Ti and Al (readable on getter metal) and organic binder such as chlorinated naphthalene (readable on aromatic binder) in an amount of up to 15% by weight, col. 3, lines 30-54. As for the language "no additional binders in ... 10 vol%" recited in claim 1, it is interpreted as

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optional and thus no other binder is required. Although the reference implies the amount of the binder phrase in wt. percent, it is the examiner's position that, when converted to volume percent, this amount inherently encompasses the claimed amount absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary.

***Claim Rejections - 35 USC § 103***

5. Claims 1-2, 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2002/005798 in view of Broodo.

US '790 discloses fine tantalum metal (readable on getter material) powder mixed with organic binder such naphthalene (which is an aromatic), wherein the mixture is subjected to compaction to form a predetermined shape. The difference between the claims and the US '798 is that there is no teaching of the amount of binder being used. Broodo teaches it is known to employ binder in an amount of up to 15% by weight the composition, col. 4, lines 34-35. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize naphthalene in the mixture taught by US '798 in the amount as taught by Broodo as it is known that binder employing in such amount facilitate the binding of getter metal powder together as taught by Broodo. Although the reference implies the amount of the binder phrase in wt. percent, it is the examiner's position that, when converted to volume percent, this amount inherently encompasses the claimed amount absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary. As for the language "no additional binders in ... 10 vol%" recited in claim 1, it is interpreted as optional and thus no other binder is required.

6. Claim 1, 2, 4-6, 8, 24-27, 29-35, 37-39, 41-51, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP04116104 in view of JP 06-002011 and Hermann.

JP '104 discloses a composition for forming a molded body containing metal powder, a binder and 3-15 wt% sublimable substance, where in the sublimable substance includes camphor, naphthalene or dichlorobenze. The reference teaches the utilization of camphor, naphthalene or dichlorobenze as sublimate substance is to facilitate the removal of binder during processing of molded body. While the reference is silent about the benzene and naphthalene being as binder, however since JP'104 employs the same material as in the instant claims, it inherently act as a binder. Although the JP'104 discloses the amount of the sublimable substance in wt. percent, it is the examiner's position that, when converted to volume percent, this amount inherently encompasses the claimed amount absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary. JP '104 appears to teach binder such as EVA, PS, PW, DEP on page 3, upper left column. The amount disclosed appears to 1.4 for EVA, 0.7 for PS, 1.2 for PW and 1.0 for DEP. The amount for each binder is lower than the sublimable substance. Again the amount is given in wt. percent, however it is the examiner's position that, when converted to volume percent, this amount inherently encompasses the claimed amount absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary.

The difference between the claims and the JP '104 is that JP '104 appears to teach SUS 304 L as the metal powder (lower right column of page 2), and is silent about getter metal.

JP 06-002011 teaches employing sublimable materials as binder for compacting metal powder such as steel as well as Nb and Ti metal powder and alloy thereof (readable on getter metal), [0017]. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to treat getter metal powder by utilizing the binder system of JP '104 as this known that sublimable material can be used to bind stainless steel powder as well as getter metal powder as taught by JP '011.

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As for claim 6, neither reference teaches the sublimable substance comprising benzene and naphthalene. However, since individually benzene and naphthalene is taught to be used as the sublimable substance, it would have been obvious to one of ordinary skill in the art to combine two or more materials when each is taught by the prior art to be useful for the same purpose. In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

As for claims 27, 29-32 the binder disclosed by JP '104 read on the claimed polymer binder including thermoplastic and thermoset polymer.

As for claims 34-35 and 37, while the JP '104 does not specially teach employing thermoplastic and thermoset polymer in the amounts as recited in the instant claims. However, the difference in the amount will not support the patentability of the subject matter encompassed by the prior art unless there is evidence indicating such amount is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable range by routine experimentation." See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d (Fed.cir), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Furthermore, the specification contains no disclosure of either the critical nature of the claimed amount range or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in the claim, the applicant must show that the chosen dimensions are critical. *In re Woodruff*, 919 F.2d, 1575, 16 USPQ2d, 1934 (Fed. Cir. 1990).

Regarding claims 38-39 and 41-42, Herrmann teaches a moldable batch mixture for forming article by powder metallurgy forming techniques, wherein the mixture comprises inorganic material such as metal powder mixed with and dispersed in a fluid organic vehicle together with an organic deflocculant and binder (col. 1, l. 10-27). The organic vehicle can be any organic material that is

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solid at normal room temperature and pressure such as paradichlorobenzene, benzoic acid and naphthalene, col. 3, Table I. The organic binder can be any one of carnauba wax, polymethyl methacrylate resin, polyethylene glycols with average molecular weight ranging from 3000 to 20000, polyvinyl acetate resin, unoxidized and oxidized microcrystalline waxes, styrene resins with average molecular weights of 1500 or more, chlorinated naphthalene and polyvinyl alcohol resin (col. 7, l. 3-10). Hermann discloses that deflocculant can be surfactants (col. 4; l. 18+) and that the deflocculant functions as a binder, col. 2, lines 19-22. As such it would be added in the amount of about 2-3 percent by weight. Although the amount of the surfactant is in wt. percent, it is the examiners position that, when used in the composition of JP'104 and converted to volume percent, this amount inherently encompasses the claimed amount absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary.

Regarding claim 43-46, Hermann discloses the deflocculant can be fatty acid (col. 4, l. 27-33) and Table III and metal salt of fatty acid (col. 4, l. 53-61 and Table V). These deflocculants inherently act as lubricant as claimed. Regarding claim 47, Hermann teaches organic binder can be carnauba wax and microcrystalline waxes, col. 7, l. 5 and 8, which inherently serve as lubricant. As for claims 48-49, Hermann discloses employing oleic acid, i.e., fatty acid in the amount of 6 cc., Example 12. While there is no recitation of the volume amount of the lubricant in the feedstock, it is the examiners position that, when used in the composition of JP '104 and converted to volume percentage, the amount of lubricant in the composition would inherently encompass the claimed amounts absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary.

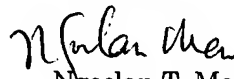
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7. Claim 52 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ngoclan T. Mai  
Examiner  
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n.m.

  
ROY KING  
SUPERVISORY PATENT &  
TECHNOLOGY CENTER